

***Aspire T680***  
***AcerPower FG***  
***Service Guide***

Service guide files and updates are available  
on the AIPG/CSD web; for more information,  
please refer to <http://csd.acer.com.tw>

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# Revision History

Please refer to the table below for the updates made on Aspire T680 & AcerPower FG service guide.

Date	Chapter	Updates

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## Conventions

The following conventions are used in this manual:

<b>SCREEN MESSAGES</b>	Denotes actual messages that appear on screen.
<b>NOTE</b>	Gives bits and pieces of additional information related to the current topic.
<b>WARNING</b>	Alerts you to any damage that might result from doing or not doing specific actions.
<b>CAUTION</b>	Gives precautionary measures to avoid possible hardware or software problems.
<b>IMPORTANT</b>	Reminds you to do specific actions relevant to the accomplishment of procedures.

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## ***Preface***

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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# ***System Specifications***

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## ***Overview***

This model is a consumer/ commercial-oriented desktop PC built with latest, high-performance technology for easier and more enjoyable consumer environment.

Regarding the “Stable Technology”, we choose Intel Pentium 4 LGA775 (socket T) processor, Intel 915GV+ICH6 (Prescott/ Cedar Mill) chipset architecture. This combination can run at 800MHz Front Side Bus and provides On-Board VGA and discret VGA support, which provides better performance than other processors. We also provide one PCI-Express x16 slot, three PCI slots (support PCI 2.2 spec.), 4 Dual Channel DDR 2 memory slots (support up to 4GB), P-ATA devices (HDD/ODD), four S-ATA devices (HDDs), on board 10/100/1000 LAN and on board Audio function.



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# Features

## **CPU**

- ☐ Socket Type : Intel Socket T
- ☐ Supports Intel Pentium 4 Prescott 775 / FSB 533/800MHz
- ☐ Supports Intel Celeron Prescott 775 / FSB 533MHz
- ☐ Pentium 4 2.66GHz ~3.8GHz speed
- ☐ Celeron D 2.53GHz ~ 3.2GHz
- ☐ L2 Cache varies with CPU from 1MB to 2MB

## **Chipset**

- ☐ Northbridge: Intel 915GV
- ☐ Southbridge: ICH6

## **Memory**

- ☐ Socket Type : DDR2 , 1.8 Voltage
- ☐ Socket Quantity : 2
- ☐ Capacity support : 128MB ~ 4GB
- ☐ Support Memory Speed : 533/400 MHz

## **Graphic Solution**

- ☐ Integrated VGA
- ☐ ATI x300, x600
- ☐ nVidia 6600

## **Slots**

- ☐ 3 PCI slot
- ☐ 1 PCIE 16x slot

## **FDD**

- ☐ One 1.44MB 3.5" device
- ☐ Allow connection of 2 FDD devices

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### ***Audio***

- ☐ Controller: Intel ICH6
- ☐ Codec : Realtek ALC880H
- ☐ Connector support Lin in/ Lin out, Microphone In (front)(Default)
- ☐ Headphone Out (front)(Default), Headphone In (rear),
- ☐ When earphone is plugged in the front access audio jack, speaker-out will mute automatically.
- ☐ 5.1 Channel Audio Support
- ☐ Reserved disable function on BIOS side. Default is enabled.

### ***LAN***

- ☐ Controller : ICH6
- ☐ LAN Chip : Realtek 8100S
- ☐ Should be worked under 10/100/1000 Mbs environment
- ☐ Reserved disabled function on both hardware & BIOS side. Default is enabled

### ***USB***

- ☐ Controller : Intel ICH6
- ☐ Connectors Quantity : 8 (4 on rear connector, 4 on-board header)
- ☐ 2 for front daughter board
- ☐ 1 for Multi-Media card reader
- ☐ USB 2.0/1.1

## ***System LED Definition***

<b>System S State</b>	<b>Wake-Up devices supported with default setting</b>
S1 (Idle)	<ul style="list-style-type: none"><li><input type="checkbox"/> Power Button : Enabled</li><li><input type="checkbox"/> PS/2 Keyboard : Enabled</li><li><input type="checkbox"/> USB Keyboard : Enabled</li><li><input type="checkbox"/> RTC : Disabled</li><li><input type="checkbox"/> LAN : Disabled</li><li><input type="checkbox"/> Modem (Ring) : Disabled</li></ul>
S3 (Suspend to RAM)	<ul style="list-style-type: none"><li><input type="checkbox"/> Power Button : Enabled</li><li><input type="checkbox"/> PS/2 Keyboard : Enabled</li><li><input type="checkbox"/> USB Keyboard : Enabled</li><li><input type="checkbox"/> LAN : Disabled</li><li><input type="checkbox"/> Modem (Ring) : Disabled</li></ul>
S4 (Suspend to Disk)	<ul style="list-style-type: none"><li><input type="checkbox"/> Power Button : Enabled</li><li><input type="checkbox"/> PS/2 Keyboard : Enabled</li><li><input type="checkbox"/> USB Keyboard : Disabled</li><li><input type="checkbox"/> RTC : Disabled</li><li><input type="checkbox"/> LAN : Disabled</li><li><input type="checkbox"/> Modem (Ring) : Disabled</li></ul>
S5 (Shut Down)	<ul style="list-style-type: none"><li><input type="checkbox"/> Power Button : Enabled</li><li><input type="checkbox"/> PS/2 Keyboard : Enabled</li><li><input type="checkbox"/> USB Keyboard : Enabled</li><li><input type="checkbox"/> RTC : Disabled</li><li><input type="checkbox"/> LAN : Disabled</li><li><input type="checkbox"/> Modem (Ring) : Disabled</li></ul>

## ***Special Design Specifications***

<b>Item</b>	<b>Description</b>
Thermal Design	<ul style="list-style-type: none"><li><input type="checkbox"/> Dynamic FAN speed control by hardware monitor</li><li><input type="checkbox"/> CPU Over-temperature (over 120°C) power off protectio</li></ul>
Power On / Wake-up event	<ul style="list-style-type: none"><li><input type="checkbox"/> Power Button : S1/S3/S4/S5</li><li><input type="checkbox"/> PS/2 Keyboard : S1/S3/S4/S5</li><li><input type="checkbox"/> RTC : S1/ S5</li><li><input type="checkbox"/> LAN : S1/S3/S5</li><li><input type="checkbox"/> Modem (Ring) : S1/S3/S5</li></ul>

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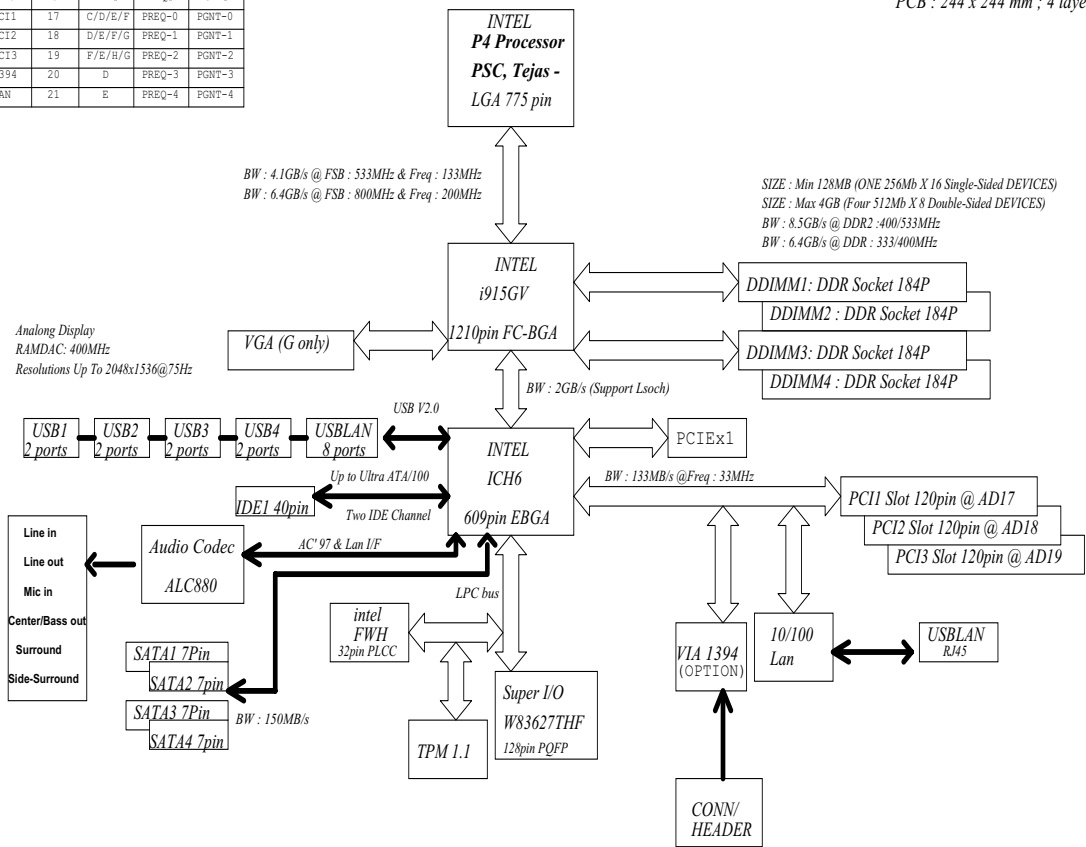
## ***On-Board Connector***

- ☐ Rear I/O Connectors
  - ☐ 1 PS/2 Keyboard Port, 1 PS/2 Mouse Port
  - ☐ 1 Parallel Port, 1 Serial Port
  - ☐ 1 VGA Port
  - ☐ 1 10/100/1000 LAN Port
  - ☐ 4 USB Ports
  - ☐ 1 Line-in/Line-out/Mic-in port
- ☐ On-Board Connectos
  - ☐ 1 CPU Socket
  - ☐ 4 Memory Slots
  - ☐ 1 PCI Express x16 Slot
  - ☐ 3 PCI Slots
  - ☐ 1 FDD Slot
  - ☐ 1 PATA IDE Slots
  - ☐ 4 SATA IDE Slots
  - ☐ 1 2\*5 pin USB pin connector
  - ☐ 1 serial port pin connector (2nd serial port)
  - ☐ 1 Aux-In 4pin connector (CD-ROM Audio Input)
  - ☐ 1 3-pin or 4-pin CPU Fan connector
  - ☐ 1 3-pin System FAN connector
  - ☐ 1 24-pin/4-pin ATX interface PS3/PS2 SPS connector
  - ☐ 1 2 pin LAN activity monitor connector
  - ☐ 2 reserved 2pin GPIO connector
  - ☐ Color management for on board connector

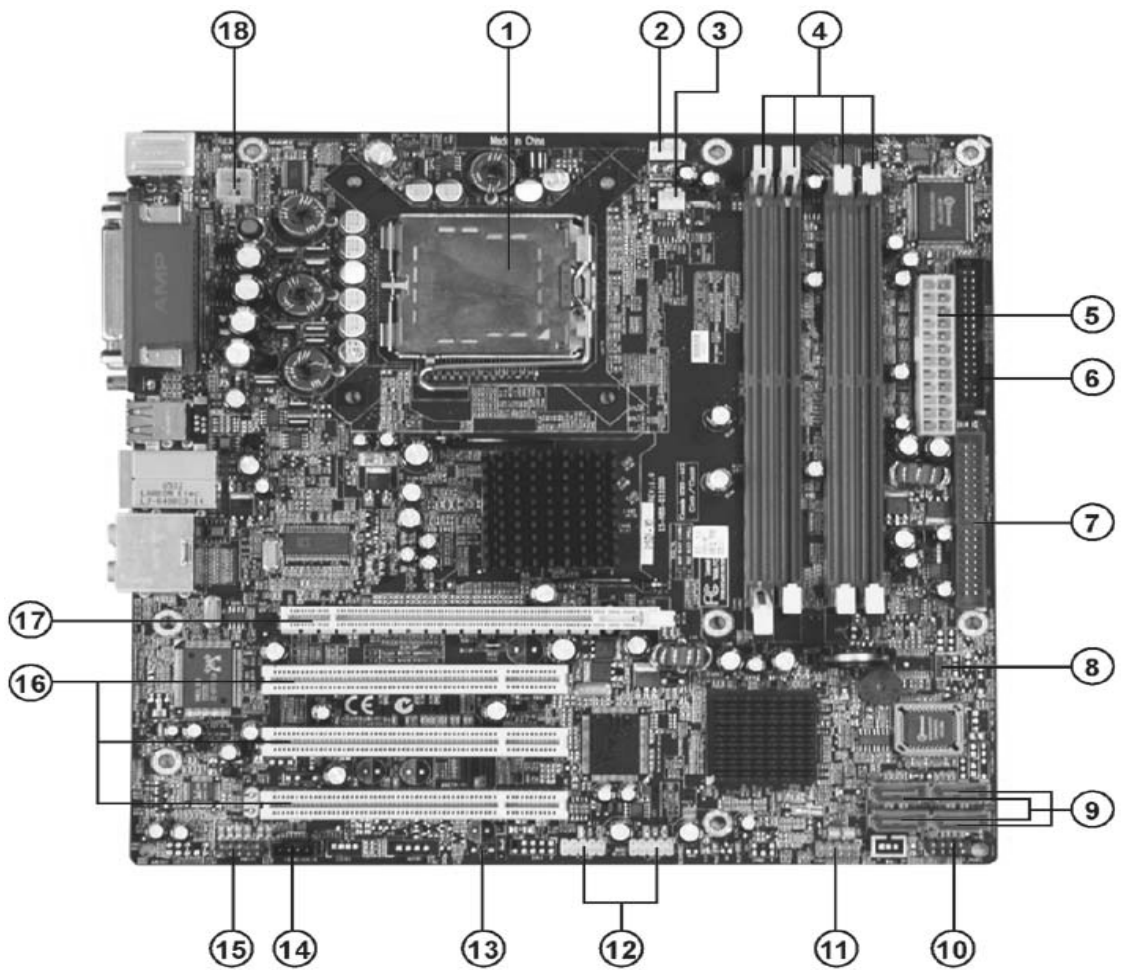
# Block Diagram

DEVICE	IDSEL	INT#	REQ#	GNT#
PCI1	17	C/D/E/F	REQ-0	PGNT-0
PCI2	18	D/E/F/G	REQ-1	PGNT-1
PCI3	19	F/E/H/G	REQ-2	PGNT-2
1394	20	D	REQ-3	PGNT-3
LAN	21	E	REQ-4	PGNT-4

PCB : 244 x 244 mm ; 4 layers



# MainBoard Placement



Item	Label	Component
1	CPU Socket	LGA775 socket for Pentium 4 CPUs
2	CPUFAN1	CPU cooling fan connector
3	SYS_FAN	System fan connector
4	DIMM1~4	240-pin DDR2 SDRAM slots
5	ATX1	Standard 24-pin ATX power connector
6	FDD	Floppy diskette drive connector
7	IDE1	Primary IDE channel
8	CLR_CMOS	Clear CMOS jumper
9	SATA1~4	Serial ATA connectors
10	F_PANEL1	Panel connector for case switches and LEDs
11	COM2	Onboard serial port header
12	F_USB1~2	Front Panel USB headers
13	BIOS_WP	BIOS flash protect jumper
14	CDIN1/AUXIN	CD-in connector
15	AUDIO1	Front panel audio header
16	PCI1~3	32-bit add-on card slots
17	PCIEX16	PCI Express x16 slot
18	ATX12V	Auxiliary 4-pin power connector

# Aspire T680 Front Panel

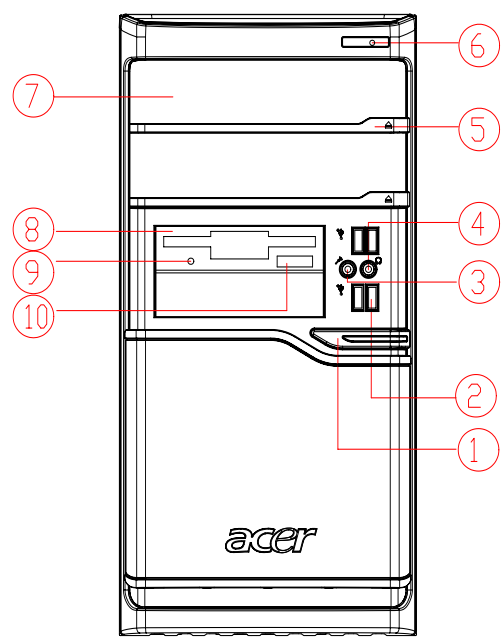


No.	Description	No.	Description
1	Optical drive	2	Floppy drive
3	Power button	4	Speaker or headphone jack
5	Microphone jack	6	USB ports

**NOTE:** The specifications above are for reference only. The exact configuration of your PC depends on the model purchased.

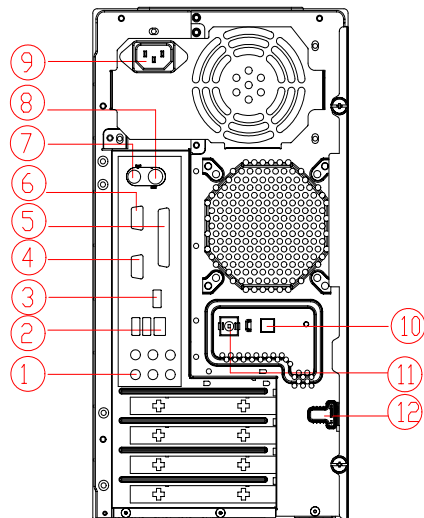


# AcerPower FG Front Panel



No.	Description
1	Power-Button
2	USB Ports
3	Microphone-in out ( Front )
4	Speaker-out/Line-out Port
5	CD Reject-Button
6	IR Receiver
7	Optical drive Door
8	3.5 inch Floppy disk drive
9	Floppy drive LED
10	Floppy drive eject button

# Rear Panel



No.	Description
1	6 audio jacks (7.1 HD audio jack)
2	RJ45
3	USB ports
4	CRT/LCD port
5	Parallel port
6	Serial port
7	PS/2 keyboard
8	PS/2 mouse
9	Power code port
10	SPDIF port
11	Recovery Switch Holder
12	Lock Handle

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## ***System Peripherals***

The Aspire T670 and AcerPower FE computer consist of the system itself, and system peripherals, like a mouse, keyboard and a set of speakers (optional). This section provides a brief description of the basic system peripherals.

### ***Mouse (PS/2 or USB, manufacturing option)***

The included mouse is a standard two-button wheel mouse. Connect the mouse to the PS/2 mouse port or USB port on the back panel of the system.



### ***Keyboard (PS/2 or USB, manufacturing option)***

Connect the keyboard to the PS/2 keyboard port or USB port on the back panel of the system.



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## ***Speakers***

For systems bundled with speakers, before powering on the system, connect the speaker cable to the audio out (external speaker) port on the back panel of the system.

For more detailed information about the speakers, please refer to the included operating instructions.

**NOTE:** speakers are optional and the appearance might be different depending on the actual product.



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## ***Acer eRecovery***

Acer eRecovery is a tool to quickly backup and restore the system. Users can create and save a backup of the current system configuration to hard drive, CD, or DVD.

Acer eRecovery consists of the following functions:

1. Create backup
2. Restore from backup
3. Create factory default image CD
4. Re-install bundled software without CD
5. Change Acer eRecovery password

### ***Create backup***

Users can create and save backup images to hard drive, CD, or DVD.

1. Boot to Windows XP
2. Press <Alt>+<F10> to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**
5. In the Recovery settings window, select **Backup snapshot image** and click **Next**.
6. Select the backup method.
  - ☐ Use **Backup to HDD** to store the backup disc image on drive D:.
  - ☐ **Backup to optical device** to store the backup disc image on CD or DVD (only available on systems that include an optical disc burner).
7. After choosing the backup method, click **Next**.

Follow the instruction on screen to complete the process.

### ***Restore from backup***

Users can restore backup previously created (as stated in the **Create backup** section) from hard drive, CD, or DVD.

1. Boot to Windows XP.
2. Press <Alt>+<F10> to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery actions** and click **Next**.
5. Select the desired restore action and follow the onscreen instructions to complete the restore process.

### ***Create factory default image CD***

When the System CD and Recovery CD are not available, you can create them by using this feature.

1. Boot to Windows XP.
2. Press <Alt>+<F10> to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**.
5. In the Recovery settings window, select **Burn image to disc** and click **Next**.
6. In the Burn image to disc window, select **01. Factory default image** and click **Next**.
7. Follow the instructions on screen to complete the process.

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## ***Re-install bundled software without CD***

Acer eRecovery stores pre-loaded software internally for easy driver and application re-installation.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select Recovery actions and click **Next**.
5. In the Recovery settings window, select **Reinstall applications/drivers** and click **Next**.
6. Select the desired driver/application and follow the instructions on screen to re-install.

At first launch, Acer eRecovery prepares all the needed software and may take few seconds to bring up the software content window.

## ***Change Password***

Acer eRecovery and Acer disc-to-disc recovery are protected by a password that can be changed by the user. Follow the steps below to change the password in Acer eRecovery.

1. Boot to Windows XP.
2. Press **<Alt>+<F10>** to open the Acer eRecovery utility.
3. Enter the password to proceed. The default password is six zeros.
4. In the Acer eRecovery window, select **Recovery settings** and click **Next**.
5. In the Recovery settings window, select **Password: Change Acer eRecovery password** and click **Next**.
6. Follow the instructions on screen to complete the process.

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## ***Acer disc-to-disc recovery***

### ***Restore without a Recovery CD***

This recovery process helps you restore the C: drive with the original software content that is installed when you purchase your notebook. Follow the steps below to rebuild your C: drive. (Your C: drive will be reformatted and all data will be erased.) It is important to back up all data files before you use this option.

1. Restart the system.
2. While the Acer logo is showing, press <Alt>+<F10> at the same time to enter the recovery process.
3. The message "The system has password protection. Please enter 000000:" is displayed.
4. Enter six zeros and continue.
5. The Acer Recovery main page appears.
6. Use the arrow keys to scroll through the items (operating system versions) and press <Enter> to select.

### ***Multilingual operating system installation***

Follow the instructions to choose the operating system and language you prefer when you first power-on the system.

1. Turn on the system.
2. Acer's multilingual operating system selection menu will pop-up automatically.
3. Use the arrow keys to scroll to the language version you want. Press <Enter> to confirm your selection.
4. The operating system and language you choose now will be the only option for future recovery operations.
5. The system will install the operating system and language you choose.

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## Hardware Specifications and Configurations

### System Board Major Chip

Item	Specification
System Core Logic	Northbridge : Intel 915GV Southbridge : Intel ICH6
Super I/O Controller	W83627THF
LAN Controller	ICH6
Memory Controller	915GV
E-IDE Controller	ICH6
SATA Controller	ICH6
RJ45 Controller	ICH6
Audio Controller	ALC880
VGA Controller	915GV

### Processor

Item	Specification
Type	Intel Pentium 4 processor 775 Land Grid Array(LGA)
Slot	Socket-T (LGA 775)
Speed	Depends on CPU, which is local configured
Bus Frequency	533/800 MHz
Voltage	Processor voltage can be detected by any system without setting any jumper


### BIOS

Item	Specification
BIOS code programmer	Award
BIOS version	N/A
BIOS ROM size	3MB
BIOS ROM package	32-pin PLCC package
Support protocol	PCIX 1.0,PCI 2.2,APM 1.2,VESA/DPMS (VBE/PM V1.1), SMBIOS 2.3, E-IDE 1.1, ACPI 1.0b,ESCD1.03, PnP 1.0a, Bootable CD-ROM 1.0, USB 1.1~ USB 2.0, UHCI 1.0, ANSI ATA 3.0 ATAPI
Boot from CD-ROM feature	Yes
Support to LS-120 drive	Yes
Support to BIOS boot block feature	Yes
BIOS Password Control	Yes

**NOTE:** The BIOS can be overwritten/upgraded by using "AFLASH" utility (AFLASH.EXE).



## BIOS Hotkey List

Hotkey	Function	Description
	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

## System Memory

Item	Specification
Memory Slot Number	4 slots
Supported Memory Size per Slot	128 MB ~ 1GB
Supported Maximum total Memory Size	4GB
Supported Memory Speed	533/400 MHz
Supported memory voltage	1.8 V
Support memory module package	240-pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature	Yes
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

## Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup
Second-Level Cache Configurations	
The information below is only applicable to system installed with a Pentium 4 processor	
Tag RAM Location	On Processor
L2 Cache RAM Location	On Processor
L2 Cache RAM type	PBSRAM (Pipelined-burst Synchronous RAM)
L2 Cache RAM size	Depends on CPU, which is local configured
L2 Cache RAM speed	Full of the processor core clock frequency (Advanced Transfer Cache)
L2 Cache function control	Enable/Disable by BIOS Setup
L2 Cache scheme	Fixed in write-back

## LAN Interface

Item	Specification
LAN Controller	ICH6
LAN Controller Resident Bus	PCI Bus
LAN Port	ONE RJ-45 on board
Function Control	Enable/Disable by BIOS Setup

## IDE Interface

Item	Specification
IDE Controller	Intel ICH6
IDE Controller Resident Bus	PCI bus

## IDE Interface

Item	Specification
Number 40 pin PATA slot	1
<input type="checkbox"/> Device Type Support	HDD, CD-ROM, CD-RW, DVD-ROM,Combo,DVD burner
<input type="checkbox"/> Transfer Rate Support	PIO 0/1/2/3/4
<input type="checkbox"/> ATA Mode	33/66/100
Number STAT IDE slot	2
<input type="checkbox"/> Device Type Support	HDD
Supports LS-120	Yes
Supports bootable CD-ROM	Yes
Function Control	Enable/Disable by BIOS setup

## Diskette Drive Interface

Item	Specification
Diskette Drive Controller Resident Bus	LPC Bus
Supported Diskette Drive Formats	1.44MB, 2.88MB format and slim type diskette drive
Function Control	Enable/Disable by BIOS Setup

## Serial Port

Item	Specification
Serial port controller	ICH6
Serial port controller resident bus	LPC Bus
Number of serial port	1
Serial port location	COM1
16550 UART support	Yes
Connector type	9-pin D-type female connector

## USB Port

Item	Specification
Universal HCI	USB 2.0
Controller	ICH6
Number of the connectors	4
Location	Rear : 2 On-board header : 2
USB Class	Support legacy keyboard for legacy mode

## Wake-up Event Specifications

Device	S1	S3	S4	S5
Power Button	Enabled	Enabled	Enabled	Enabled
PS2 Keyboard	Enabled	Enabled	Enabled	Enabled
USB Keyboard	Disabled	Disabled	Enabled	Disabled
RTC	Enabled	Enabled	Enabled	Enabled

## Wake-up Event Specifications

Device	S1	S3	S4	S5
LAN	Enabled	Enabled	Enabled	Enabled

## Thermal Design

Item	Description
Thermal Design	<input type="checkbox"/> Dynamic FAN speed control by hardware monitor <input type="checkbox"/> CPU Over-temperature (over 120°C) power off protection

## Power On / Wake-up Event

Item	Description
Power On/ Wake-Up Event	<input type="checkbox"/> Power Button: S1/S3/S4/S5 <input type="checkbox"/> PS/2 Keyboard: S1/S3/S4/S5 <input type="checkbox"/> RTC: S1/S5 <input type="checkbox"/> LAN: S1/S3/S5

## Memory Address Map

Address	Size	Function
0000000 - 009FFFF	640 KB System Memory	Onboard DRAM
00A0000-00BFFFF	128 KB Video RAM	Reserved for Graphics Display Buffer Non-Cacheable
00C0000-00CFFFF	32 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D0000-00D3FFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D4000-00D7FFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00D8000-00DBFFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00DC000-00DFFFF	16 KB I/O Expansion ROM	Reserved for ROM on I/O Adapters
00E0000-00E7FFF	32 KB for SCSI BIOS	Reserved for SCSI BIOS
00E8000-00EFFFF	32 KB	Reserved Onboard
00F0000-00FFFFFF	64 KB BIOS	System ROM BIOS (ROM) System RAM BIOS (DRAM)
0100000-0F9FFFF	System Memory	Onboard DRAM
0FA0000-0FFFFFFF	384 KB I/O Card Memory	Reserved for Memory Map I/O Card Non-Cacheable
1000000-FFFFFFFF	System Memory	Onboard DRAM

### I/O Address Map

<i>Hex Range</i>	<i>Devices</i>
000-01F	DMA Controller-1
020-021	Interrupt Controller-1
040-043	System Timer
060-060	Keyboard Controller 8742
061-061	System Speaker
070-071	CMOS RAM Address and Real Time Clock
080-08F	DMA Page Register
0A0-0A1	Interrupt Controller-2
0C0-0DF	DMA Controller-2
0F0-0FF	Math Co-Processor
170-177	Secondary IDE
1F0-1F7	Primary IDE
278-27F	Parallel Printer Port 2
2F8-2FF	Serial Asynchronous Port 2
378-37F	Parallel Printer Port 1
3F0-3F5	Floppy Disk Controller
3F6-3F6	Secondary IDE
3F7-3F7	Primary IDE
3F8-3FF	Serial Asynchronous Port 1
0CF8	Configuration Address Register
0CFC	Configuration Data Register
778-77A	Parallel Printer Port 1

### IRQ Assignment Map

<b>IRQx</b>	<b>System Devices</b>	<b>Add-On-Card Devices</b>
IRQ0	Timer	N
IRQ1	Keyboard	N
IRQ2	Reserved	N
IRQ3	Serial Port 2	Reserved
IRQ4	Serial Port 1	Reserved
IRQ5	Reserved	Reserved
IRQ6	Floppy Disk	Reserved
IRQ7	Parallel Port	Reserved
IRQ8	Real Time Clock	N
IRQ9	N	Reserved
IRQ10	N	Reserved
IRQ11	N	Reserved
IRQ12	PS/2 Mouse	Reserved
IRQ13	Numeric Processor	N
IRQ14	Embedded Hard Disk	Reserved
IRQ15	Reserved	Reserved

**NOTE:** N - Not be used

## DRQ Assignment Map

DRQx	System Devices	Add-On-Card Devices
DRQ0	N	Reserved
DRQ1	N	Reserved
DRQ2	FDD	N
DRQ3	N	Reserved
DRQ4	Cascade	N
DRQ5	N	Reserved
DRQ6	N	Reserved
DRQ7	N	Reserved

**NOTE:** N - Not be used

## Environmental Requirements

Item	Specifications
<b>Temperature</b>	
Operating	+5°C ~ +35°C
Non-operating	-20 ~ +60°C (Storage package), -10°C~+60°C (un-package)
<b>Humidity</b>	
Operating	15% to 80% RH, non-condensing
Non-operating	10% to 90% RH, non-condensing at 40°C
<b>Vibration</b>	
Operating (unpacked)	5 ~ 500Hz, 2.20g RMS random, 10 minutes per axis in all 3 axes
Non-operating (packed)	5 ~ 500Hz, 1.09g RMS random, 1 hour per axis in all 3 axes
Shock Operating	Half sine, 2g 11m seconds

## Drop Test

Drop Test				
Definition	The protection ability of packing & cushion must be capable of withstanding, with no physical or functional damage, mechanical impact from height-specific drops.			
Test Standard				
Package Cross Weight		Drop Height		Not of Drop
KGs	lbs	CM	Inch	
0~9.1	0~20	76	30	10
9.1~18.2	20~40	61	24	10
18.2~27.3	40~60	46	18	10
27.3~45.4	60~100	31	12	10
10 drops : one corner, three edges, six surfaces				

## Mechanical Specifications

Item	Specification
Dimensions(main footprint)	180(w)x352(H)x406(D)mm
Weight	4.74 Kg

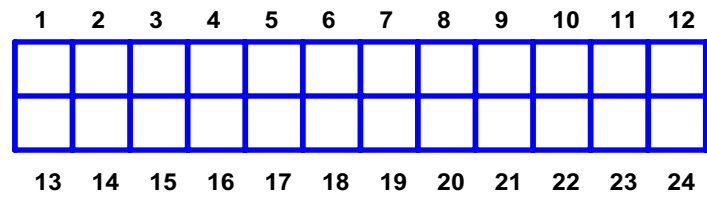
---

## ***Jumper Setting***

Jumper	Connector Type	Description	Function
CLR_CMOS	Header 3*1	Clear CMOS	1-2 Normal (Default) 2-3 Clear CMOS <b>NOTE:</b> Before clear the CMOS, the AC power of powersupply should be removed
BIOS_WP	Header 3*1	Flash Protect	1-2: Flash (Default) 2-3: Flash Protect
BIOS_TBL	Header 3*1	Boot Block	1-2:Boot Block Disable 2-3:Boot Block Enable


# Connector

## ATX 1

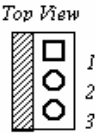


Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	COM	15	COM
4	+5V	16	PS_ON
5	COM	17	COM
6	+5V	18	COM
7	COM	19	COM
8	PWR OK	20	-5V
9	5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	COM


## ATX 12V

Illustration	Pin	Signal Name
	1	Ground
	2	Ground
	3	+12V
	4	+12V

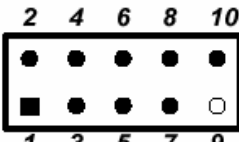
## SYS\_FAN

Illustration	Pin	Signal Name
	1	Ground : Systeme Ground
	2	Power +12V
	3	SENSE

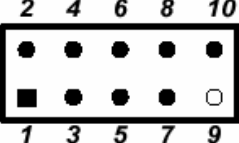
## CPU FAN

Illustration	Pin	Signal Name
	1	Ground
	2	Power +12V
	3	SENSE
	4	PWM


## F\_USB1

Illustration	Pin	Signal Name	Pin	Signal Name
	1	USB DUAL VCC	2	DSB UDAL VCC
	3	USBP4-	4	USBP5-
	5	USBP4+	6	USBP5+
	7	Ground	8	Ground
	9	Key	10	USBOC45#

## F\_USB2

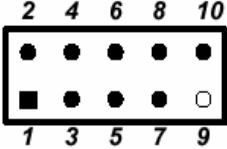
Illustration	Pin	Signal Name	Pin	Signal Name
	1	USB DUAL VCC	2	DSB UDAL VCC
	3	USBP4-	4	USBP5-
	5	USBP4+	6	USBP5+
	7	Ground	8	Ground
	9	Key	10	USBOC45#

## CD-IN1

Illustration	Pin	Signal Name
	1	CD-IN Left
	2	Ground
	3	Ground
	4	CD-IN-Right



***F\_PANEL***

Illustration	Pin	Signal	Description
	1	HD LED P	Hard Disk LED pull-up (330ohm) to +5V
	2	FP PWR/SLP	MSG LED pull-up (330ohm) to +5V
	3	HD LED N	Hard Disk active LED
	4	FP PWR/SLP	MSG LED pull up (330ohm) to +5V
	5	RST SW N	Reset Switch low reference pull down (100ohm) to GND
	6	PWR SW P	Power Switch high reference pull up (10000ohm) to +5V
	7	RST SW P	Reset Switch high reference pull up (1000ohm) to +5V
	8	PWR SW N	Power Swtich high reference pull down (100ohm) toGND
	9	RSVD DUN	Reserved. DO NOT USE

## System Utilities

BIOS (Basic Input and Output System) includes a CMOS SETUP utility which allows user to configure required setting or to active certain system features.












The CMOS SETUP saves the configuration in the CMOS SRAM of the mainboard. When the power is turned off, the battery on the mainboard supplies the necessary power to the CMOS SRAM.

When the power is turned on, pushing the <Del> button during the BIOS POST (Power-On Self Test) will take you to the CMOS SETUP screen. You can enter the BIOS setup screen by pressing "Ctrl+F1". When setting up BIOS for the first time, it is recommended that you save the current BIOS to a disk in the event that BIOS needs to be reset to its original settings.

Q-Flash allows the user to quickly and easily update or backup BIOS without entering the operating system.

BIOS is a Window s-based utility that doesn't required users to boot to DOS before upgrading BIOS but directly download and update BIOS from the Internet.

### Control Keys

Item	Description
	Move to selection
	Select Item
	Main Menu: Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu, Exit current page and return to Main Menu.
	Increase the numeric value or make changes
	Decrease the numeric value or make changes
	General help, only for Status Page Setup Menu and Option Page Setup Menu
	Item Help
	Restore the previous CMOS value from CMOS, only for option Page Setup Menu
	Load the Optimized Defaults
	System Information
	Save all the CMOS changes, only for Main Menu

**NOTE: Main Menu:** This is the online description of the highlighted setup functions is displayed at the bottom of the screen.

**NOTE: Status Page Setup Menu/ Option Page Setup Menu:** Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

## Entering Setup

Once enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen.

Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

CMOS Setup Utility-Copyright © 1985-2004, America Megatrends, Inc.	
▶ Product Information	▶ PC Health Status
▶ Standard CMOS Features	▶ Frequency Control
▶ Advanced BIOS Features	Load Default Settings
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Save & Exit Setup
▶ Power Management Setup	Exit Without Saving
▶ PnP/PCI Configurations	
←→↑↓: Move Enter : Select +/-:Value F10: Save ESC: Exit	
F1 : General Help F9: Load Default Settings	
v02.58 © Copyright 1985-2004, America Megatrends, Inc.	

Parameter	Description
Product Information	This page shows the relevant information of the mainboard
Standard CMOS Features	This setup page includes all the items in standard compatible BIOS
Advanced BIOS Features	This setup page includes all the items of Award special enhanced features
Advanced Chipset Features	The values for the chipset can be changed through this menu, and the system performance can be optimized.
Integrated Peripherals	This setup page includes all onboard peripherals
Power Management Setup	This setup page includes all the items of Green function features
PnP/PCI Configuration	This setup page includes all configurations of PCI&PnP ISA resources
PC Health Status	This setup page is the System auto detect Temperature, voltage, fan and speed
Frequency Control	This setup page is control CPU's clock and frequency ratio.
Set Supervisor Password	Change, set or disable password. It allows you to limit access to the system and Setup, or just to Setup
Set User Password	Change, set or disable password. It allows you to limit access to the system
Save & Exit Setup	Save CMOS value settings to CMOS and exit setup
Exit Without Saving	Abandon all CMOS value changes and exit setup

## Product Informatoin

CMOS Setup Utility - Copyright © 1985-2004, American Megatrends, Inc.		
Product Information		
Product Names	Aspire T680/AcerPower FG	Item Help
System S/N		Menu Level
Main Board ID	E915GV	
System BIOS Version	R01-A2	
SMBIOS Version	2.3.3	
System BIOS ID	R01-A2	
BIOS Release Date	08/22/05	
↑↓←→: Move   Enter: Select   +/-/: Value   F10: Save   ESC: Exit   F1: General Help F9: Default Settings		

Parameter	Description
Product Name	This item lists the product name
System S/N	This item lists the system serial number
Main Board ID	This item lists the mainboard ID
System BIOS Version	This item lists the system BIOS version
SMBIOS Version	This item lists the system SMBIOS version
System BIOS ID	This item lists the system BIOS ID
BIOS Release Date	This item lists the BIOS release date

## Standard CMOS Features

CMOS Setup Utility - Copyright © 1985-2004, American Megatrends, Inc.		
Standard CMOS Features		
Date	[ Mon 08/22/2005]	Item Help
Time	[10:31:24]	Menu Level >
ATA/IDE Configuration	[Enhanced]	
▶ Primary IDE Master	[Hard Disk]	
▶ Primary IDE Slave	[Not Detected]	
▶ Secondary IDE Master	[Not Detected]	<Week>
▶ Secondary IDE Slave	[Not Detected]	Sun. to Sat.
▶ Third IDE Master	[CD/DVD ROM]	
▶ Third IDE Slave	[Not Detected]	
Drive A	[1.44M, 3.5 in ]	<Month>
		Jan. to Dec.
		<Day>
		<Year>
		1999 to 2098
↑↓←→: Move   Enter: Select   +/-: Value   F10: Save   ESC: Exit   F1: General Help F9: Default Settings		

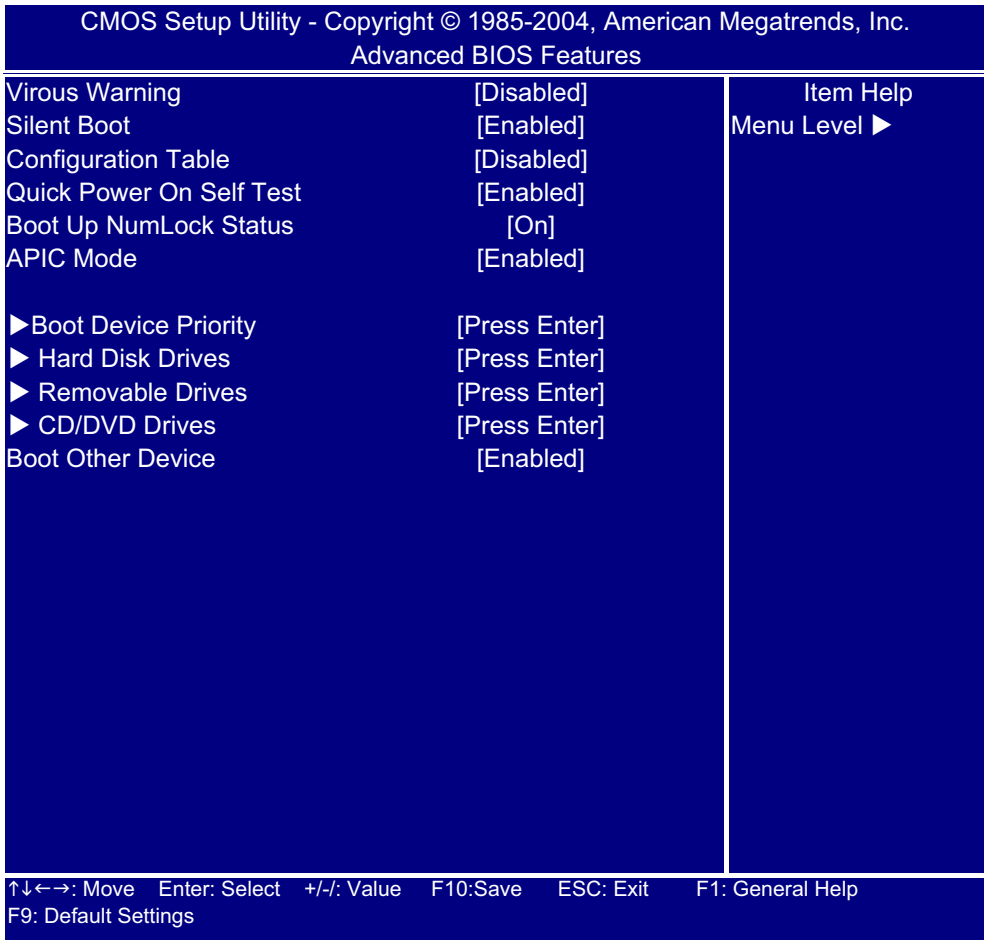
The following table describes the parameters found in this menu:

Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	Week : from Sun. to Sat., determined by BIOS and is display only Month : from Jan. through Dec. Day : from 1 to 31 ( or the maximum allowed in the month) Year : from 1999 to 2098
Time	Lets you set the time following the hour-minute-second format	The items format is <hour><minut><second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00
ATA/IDE Configuration	The ATA/IDE option can be configured as "Disabled", "Compatible" and "Enhanced" (default) in the BIOS configuration. Windows* 98SE and Windows* Me operatin systems do not support Enhanced mode IDE/Serial ATA resources for more than four devices. If the ATA/IDE option is set to Enhanced mode, the operating installation will not be able to recognize the drive, and the installation will fail. Before installing 98SE or Me, the ATA/IDE configuration must be changed from Enhanced to Legacy mode.	Disabled Compatible <b>Enhanced</b>

Parameter	Description	Options
Primary/Secondary/Third Master, Slave	Allows you to configure the hard disk drive connected to the master port of IDE channel. To enter the IDE Master or Slave setup, press [Enter]. The IDE CD-ROM is always automatically detected.	<p>IDE HDD Auto-Detection Press [Enter] to select this option for automatic device detection.</p> <p>IDE Primary/Secondary Master, Slave IDE Device Setup. You can use one of three methods:</p> <p>Auto : Allows BIOS to automatically detect IDE devices during POST (default)</p> <p><b>None</b> : Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up</p> <p>Manual : User can manually input the correct settings</p> <p>Access Mode : Use this to set the access mode for the hard drive. the four options are: CHS/LBA/Large/Auto (default: Auto)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cylinder : Number of cylinders</li> <li><input type="checkbox"/> Head : Number of heads</li> <li><input type="checkbox"/> Precomp : Write precomp</li> <li><input type="checkbox"/> Landing Zone : Landing Zone</li> <li><input type="checkbox"/> Sector : Number of sectors</li> </ul>
Drive A	The category identifies the types of floppy disk drive A that has been installed in the computer.	<p>None : No floppy drive installed</p> <p>360K, 5.25" : 5.25 inch PC type standard drive ; 360Kbyte capacity</p> <p>1.2M, 5.25" : 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled)</p> <p>720K, 3.5" : 3.5 inch double-sided drive; 720Kbyte capacity</p> <p><b>1.44M, 3.5"</b> : 3.5 inch double-sided drive; 1.44Mbyte capacity</p> <p>2.88M, 3.5" : 3.5 inch double-sided drive; 2.88Mbyte capacity</p>

# Advanced BIOS Features

The following screen shows the Advanced BIOS Features:



**NOTE:** “#” System will detect automatically and show up when you install the Intel® Pentium 4 processor with HT Technology.

Parameter	Description	Options
Virus Warning	This feature allows you to enable the VIRUS warning function for IDE Hard Disk boot sector protection. If this function is enabled and there is someone attempt to write data into this area, BIOS will show a warning message on screen and the alarm will beep.	Enabled <b>Disabled</b>
Silent Boot	This features allows you to enable or disable if the screen logo to display or no during POST	<b>Enabled</b> Disabled
Configuration Table	This feature allows you to enable or disable if showing summary screen or not	Enabled <b>Disabled</b>
Quick Power On Self Test	This feature allows the system to skip certain tests while booting. When this function is enabled, it will decrease the time needed to boot the system, which means to quick power on self test function	<b>Enabled</b> Disabled
Boot Up NumLock Status	This item defines if the keyboard Num Lock key is active when your system is started.	<b>On</b>
APIC Mode	This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems,allowing support for up to 60 processors.	<b>Enabled</b>
Boot Device Priority	Scroll to this item and press <Enter> to view the screen	
Hard Disk Drives	Scroll to this item and press <Enter> to view the screen	
Removable Drives	Scroll to this item and press <Enter> to view the screen	
CD/DVD Drives	Scroll to this item and press <Enter> to view the screen	
Boot Other Device	When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.	<b>Enabled</b>



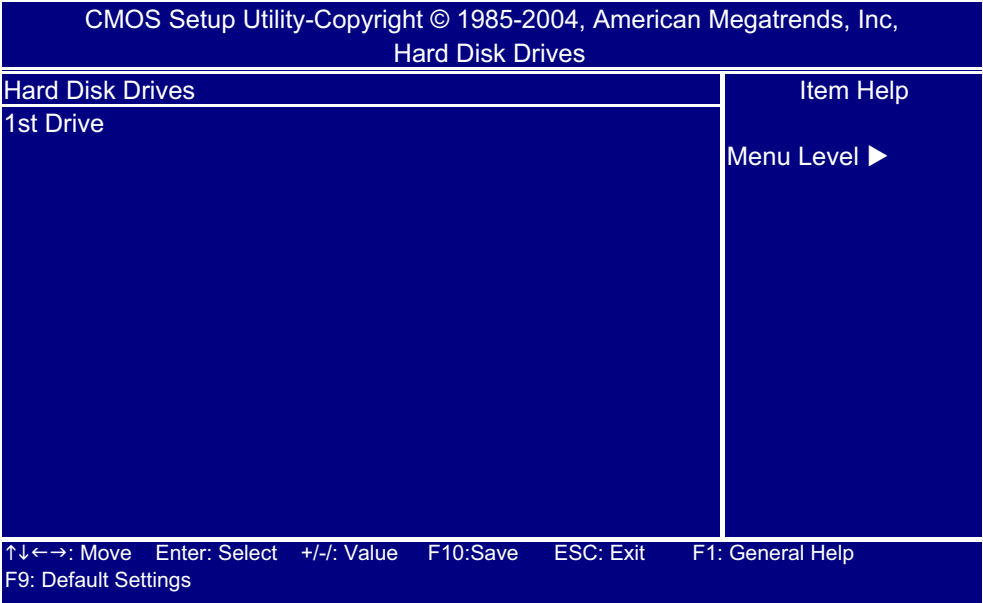
**Boot Device Priority**

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc, Boot Device Priority		
Boot Device Priority		Item Help
First Boot Device	[1st FLOPPY DRIVE]	Menu Level ►
Second Boot Device	[HDS728080PLA380]	
Third Boot Device	[HL-DT-ST RW/DVD GC]	
4th Boot Device	[Realtek Boot Agent]	

Parameter	Description
1st/2nd/3rd/4th Boot Device	Use these four items to select the priority and order of the devices that your system searches for an operating system at start-up time.

---

# Hard Disk Drives



**Removable Devices**

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc,  
Removable Drives

Removable Drives		Item Help
1st Drive	[1st FLOPPY DRIVE]	Menu Level ►
2nd Drive	[Generic USB SD Rea]	
3rd Drive	[Generic USB CF Rea]	
4th Drive	[Generic USB SM Rea]	

↑↓←→: Move   Enter: Select   +/-: Value   F10:Save   ESC: Exit   F1: General Help  
F9: Default Settings

---

## CD/DVD Drives

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc.	
CD/DVD Drives	
CD/DVD Drives	Item Help
1st Drive [HL-DT-ST RW/DVD GC]	Menu Level ►
↑↓←→: Move   Enter: Select   +/-: Value   F10: Save   ESC: Exit   F1: General Help F9: Default Settings	

# Advanced Chipset Features

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc,  
Advanced Chipset Features

DRAM Frequency	[Auto]	Item Help  Menu Level ►
Configure DRAM Timing by SPD	[Enabled]	
Init Display First	[PCIEX/PCI]	
VGA Share Memory	[8MB]	
Aperture Size Select	[256MB]	

↑↓←→: Move   Enter: Select   +/-/: Value   F10:Save   ESC: Exit   F1: General Help  
F9: Default Settings

Parameter	Description
DRAM Frequency	This item determines frequency of DRAM memory.
Configure DRAM Timing by SPD	Enables you to select the CAS latency time in HCLKs of 2, 2.5, or 3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
Init Display First	Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the mainboard.
VGA Share Memory	This item shows the VGA memory size borrowed from main memory capacity.
Aperture Size Select	This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

# Integrated Peripherals

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc, Integrated Peripherals		
USB 2.0 Controller	[Enabled]	Item Help  Menu Level ►
USB Function	[Enabled]	
Legacy USB Support	[Enabled]	
Onboard AUDIO Function	[Enabled]	
Onboard LAN Function	[Enabled]	
LAN Boot ROM Support	[Enabled]	
Serial Port 1 Address	[3F8/IRQ4]	
Serial Port 2 Address	[Disabled]	
Parallel Port Address	[378]	
Parallel Port Mode	[ECP]	
EPP Version	[1.9]	
Parallel Port IRQ	[IRQ7]	
↑↓←→: Move   Enter: Select   +/-: Value   F10:Save   ESC: Exit   F1: General Help F9: Default Settings		

Parameter	Description	Option
USB 2.0 Controller	Enable this item if the system supports USB 2.0	<b>Enabled</b> Disabled
USB Function	This item is used to enable or disable the on-chip USB	<b>Enabled</b> Disabled
Legacy USB Support	This item allows you to enable or disable Legacy USB support	<b>Enabled</b> Disabled
Onboard AUDIO Function	Enabling the on-die audio if no add-on PCI audio device	<b>Enabled</b> Disabled
Onboard LAN Function	Enables and disables the onboard LAN	<b>Enabled</b> Disabled
LAN Boot ROM Support	This function decide whether to invoke the boot ROM of the onboard LAN chip	<b>Enabled</b> Disabled
Serial Port 1 Address	This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1or 2	Auto : BIOS will automatically setup the port 1 or 2 address 3F8/IRQ4 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3 Diabled
Serial Port 2 Address		
Parallel Port Address	Use this item to enable or disable the onboard Parallel port, and to assign a port address.	

Parameter	Description	Option
Parallel Port Mode	Enables you to set data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP. SPP allows data output only. Port (ECP) and Enhanced Parallel Port (EPP) are bi-Extended Capabilities directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP and ECP aware peripherals.	SPP EPP <b>ECP</b> ECP+EPP
EPP Version	Indicates the EPP version	N/A
Parallel Port IRQ	This item assigns either IRQ 5 or 7 to the parallel port	N/A

## Power Management Setup

The Power Management menu lets you configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc, Power Management Setup		
ACPI Suspend Type	[S3 (STR)]	Item Help
Video Off In Suspend	[Enabled]	Menu Level ►
HDD Power Down	[Disabled]	
Soft-Off by PWR-BTTN	[Delay 4 Sec]	
PWRON After PWR-Fail	[Former-Sts]	
Power On by Ring	[Disabled]	
Wake-Up by PCI Card	[Enabled]	
USB KB Wake Up From S3	[Enabled]	
PS/2 Keyboard Wakeup	[Disabled]	
PS/2 Mouse Wakeup	[Disabled]	
Resume by Alarm	[Disabled]	
↑↓←→: Move   Enter: Select   +/-: Value   F10:Save   ESC: Exit   F1: General Help F9: Default Settings		

Parameter	Description	Options
ACPI Suspend Type	This item specifies the power saving modes for ACPI function. S1(POS): The S1 sleep mode is a low power state. In this state, no system context (CPU or chipset) is lost and hardware maintains all system context. S3 (STR): The S3 sleep mode is a power-down state in which power is supplied only to essential components such as main memory and wake-capable devices and all system context is saved to main memory. The information stored in memory will be used to restore the PC to the previous state when an wake-up event occurs.	S1 (POS) : Set ACPI suspend type to S1/POS(Power On Suspend). <b>S3 (STR)</b> : Set ACPI suspend type to S3/STR
Video Off In Suspend	This option defines if the video is powered down when the system is put into suspend mode.	Disabled <b>Enabled</b>
HDD Power Down	This option lets you specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states previously described in this section (Standby and Suspend).	Disabled 1~15 mins
Soft-off by PWR-BTTN	This feature allows users to configure the power button function.	Instand-off : Press down button then power off instantly Delay 4 Sec. : Press power button 4 sec. to power off. Enter suspend if button is pressed less than 4 sec.



Parameter	Description	Options
PWRON After PWR-Fail	This item enables your computer to automatically restart or return to its former operating status after power returns from a power failure.	Former-Sts
Power On by Ring	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.	Disabled : Disable Power On by Ring function Enabled : Enable Power On by Ring function
Wake-Up by PCI Card	This option determines the system wakeup by PCI card	Disabled <b>Enabled</b>
USB KB Wake Up From S3	USB Keyboard wakeup from S3 (tandyb status)	Disabled <b>Enabled</b>
PS/2 Keyboard Wakeup	Set this via keyboard to power on the system	Password : Enter from 15 characters to set the Keyboard Power On Password Disabled : Disable this function Keyboard 98 : If your keyboard have "Power Key" button, you can press the key to power on the system
PS/2 Mouse Wakeup	Set this via mouse to power on the system	Disabled : Disable this function Double Click : Double click on PS/2 mouse left button to power on the system
Resume by Alarm	You can set "Resume by Alarm" item to enabled and key in Data/Time to power on system	Disabled : Disable this function Enabled : Enable alarm function to Power On system. If RTC Alarm Lead To Power On is Enabled. Date (of Month) Alarm : Everyday, 1~31 Time (hh:mm:ss) Alarm: (0~23):(0~59):(0~59)

# Frequency Control

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc.  
Frequency Control

Auto Detect DIMM/PCI Clk [Enabled]	Item Help
Spread Spectrum [Enabled]	Menu Level ►

↑↓←→: Move   Enter: Select   +/-: Value   F10:Save   ESC: Exit   F1: General Help  
F9: Default Settings

Parameter	Description	Option
Auto Detect DIMM/PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.	Enabled Disabled
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI (Electro Magnetic Interference) generated by the system.	Enabled Disabled

# PnP/PCI Configuration

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PnP/ PCI

PCI/VGA Palette Snoop

[Disabled]

Item Help

Menu Level ►

↑↓←→: Move

Enter: Select

+/-: Value

F10:Save

ESC: Exit

F1: General Help

F9: Default Settings

Parallels	Description	Option
PCI/VGA Palette Snoop	<div>Disabled - Data read or written by the CPU is only directed to the PCI VGA device's palette registers.</div> <div>Enabled - Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical</div>	<div>Disabled</div> <div>Enabled</div>

---

## Load Default Settings

Selecting the field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

CMOS Setup Utility-Copyright © 1985-2004, America Megatrends, Inc.	
▶Product Information ▶Standard CMOS Features ▶Advanced BIOS Features ▶Advanced Chipset Features ▶Integrated Peripherals ▶Power Management Setup ▶PnP/PCI Configurations	▶PC Health Status ▶Frequency Control Load Default Settings Set Supervisor Password Save & Exit Setup Exit Without Saving
←→↑↓: Move   Enter : Select   +/-/:Value   F10: Save   ESC: Exit F1 : General Help   F9: Load Default Settings	
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# PC Health

CMOS Setup Utility-Copyright © 1985-2004, American Megatrends, Inc, PC Health Status		
CPU Shutdown Temperature[90°C/194°F]		Item Help
SMART FAN Control	[Enabled]	Menu Level ►
CPU Temperature	53°C/127°F	
Ambient Temperature	35°C/95°F	
CPU FAN Speed	981RPM	
SYS FAN Speed	1125RPM	
Vcore	1.373V	
12V	11.951V	
5.0V	5.148V	
3.3V	3.378V	
1.5V	1.516V	
↑↓←→: Move   Enter: Select   +/-: Value   F10:Save   ESC: Exit   F1: General Help F9: Default Settings		

The following table describes the parameters found in this menu:

Parameter	Description	
CPU Shutdown Temperature	Enables you to set the maximum temperature the system can reach before powering down.	60° C/140° F 65° C/149°F 70° C/158° F <b>Disabled</b>
SMART FAN Control	This option is setting the smart Fan temperature level.	<b>Enabled</b> Disabled
CPU Temperature	Detect CPU Temperature automatically	
Ambient Temperature	Delect ambient temperature automatically	
CPU / SYSTEM FAN Speed (RPM)	Detect CPU/SYSTEM Fan Speed status automatically	

---

## ***Set Supervisor/User Password***

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

CMOS Setup Utility-Copyright © 1985-2004, America Megatrends, Inc.	
▶ Product Information	▶ PC Health Status
▶ Standard CMOS Features	▶ Frequency Control
▶ Advanced BIOS Features	Load Default Settings
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Save & Exit Setup
▶ Power Management Setup	Exit Without Saving
▶ PnP/PCI Configurations	
←→↑↓: Move   Enter : Select   +/-:Value   F10: Save   ESC: Exit	
F1 : General Help   F9: Load Default Settings	
v02.58 © Copyright 1985-2004, America Megatrends, Inc.	

The access rights and permission associated with the Supervisor password are higher than those of a regular User password. The Supervisor password can be used to start the system or modify the CMOS settings. The User password can also start the system. While the User password

---

# Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility.

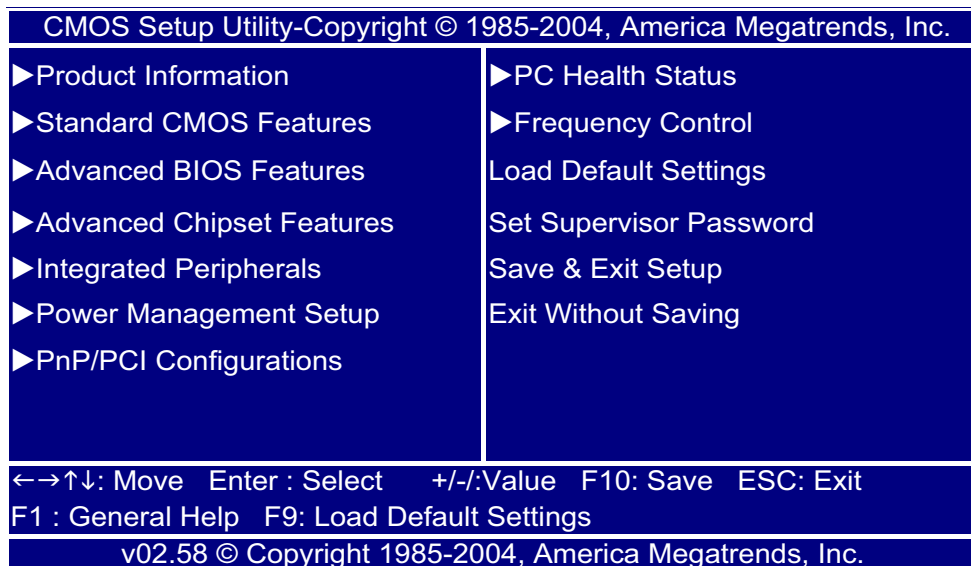
CMOS Setup Utility-Copyright © 1985-2004, America Megatrends, Inc.	
▶Product Information	▶PC Health Status
▶Standard CMOS Features	▶Frequency Control
▶Advanced BIOS Features	Load Default Settings
▶Advanced Chipset Features	Set Supervisor Password
▶Integrated Peripherals	Save & Exit Setup
▶Power Management Setup	Exit Without Saving
▶PnP/PCI Configurations	
←→↑↓: Move   Enter : Select   +/-:Value   F10: Save   ESC: Exit	
F1 : General Help   F9: Load Default Settings	
v02.58 © Copyright 1985-2004, America Megatrends, Inc.	

When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

---

## Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility.



When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

**NOTE:** If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.



## ***Machine Disassembly and Replacement***

---

This chapter contains step-by-step procedures on how to disassemble the Aspire T680/AcerPower FG desktop computer for maintenance and troubleshooting.

**NOTE:** The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

---

## ***General Information***

### ***Before You Begin***

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.

---

# Disassembling the Aspire T680

## Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

**CAUTION:** Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

## Removing the Housing

1. Turn off the system power and steady it.

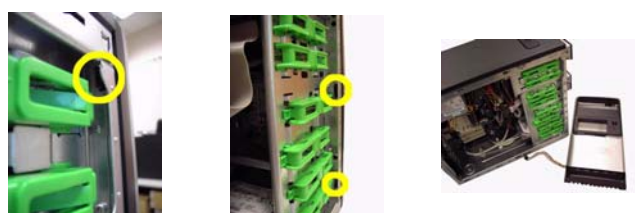


2. Remove the two screws holding the side panel.
3. Press down the clip to release the left panel.
4. Slide the left cover out and then gently pull it outward to detach it from the housing.



## Removing the Front Panel

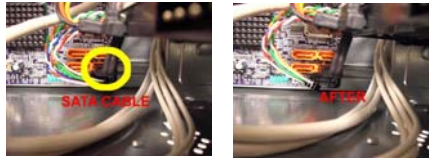
1. Release the inner clips before removing the front panel as the picture shows carefully.



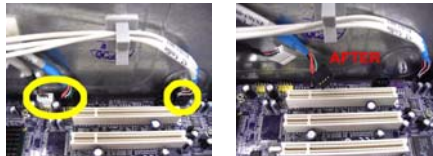
---

## ***Removing the Cables from Mainboard***

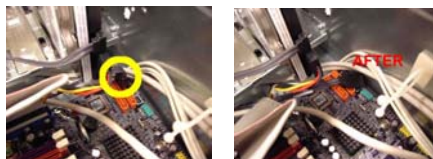
1. Disconnect the SATA cable.



2. Disconnect the Audio cable, two front USB cables (from Right to Left).



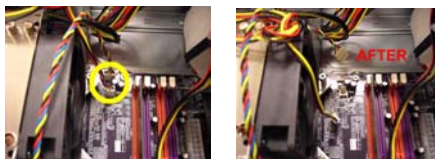
3. Disconnect the SATA cable.



4. Disconnect the IDE cables and power cable.



5. Disconnect the SYS fan cable (3pin) and Heatsink cable (4pin).

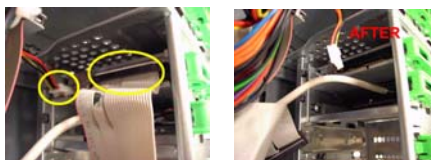


## ***Removing the Cables from Devices***

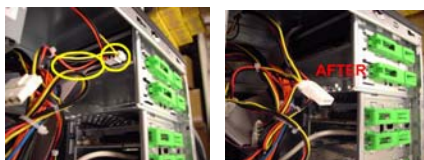
1. Disconnect the two SATA cables from the rear of HDD.



- 
1. Disconnect the IDE cable and power cable from the rear of FDD.



2. Disconnect the IDE cable and power cable from the rear of ODD.



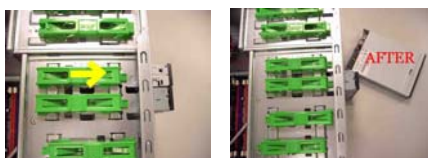
### ***Removing the ODD***

Press the lock following the arrow direction. Then detach ODD from the chassis.



### ***Removing the FDD***

Press the lock following the arrow direction. Then detach the FDD from the chassis.



### ***Removing the Card Reader***

Press the lock following the arrow direction. Then detach the Card Reader from the chassis.



### ***Removing the HDD***

Press the lock following the arrow direction. Then detach the HDD from the chassis.



---

## ***Removing the DIMM***

1. Pop up the tabs on both side.
2. Detach the memory out from the slot.



## ***Removing the USB Module***

1. Remove the one screw.
2. Detach the USB module from the chassis.



3. Disconnect the cables and loosen the two screws to detach the daughter board.



## ***Removing the Heatsink and CPU***

1. Loosn those fore screws on each corner.
2. Detach the Heatsink from the mainboard.



3. Press down to release the CPU lever.
4. Lift the clip.
5. Lift the cover.
6. Detach the CPU from the socket.



---

## ***Removing the System FAN***

1. Loosen the four screws.
2. Detach the SYS fan from the chassis.



## ***Removing the Power Supply***

1. Disconnect the power supply cable from mainboard.

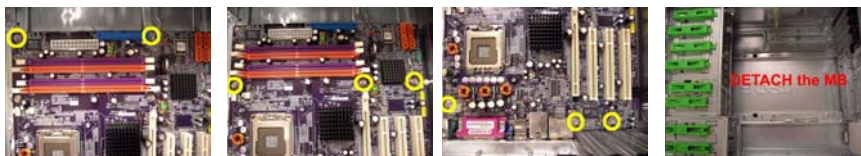


2. Loosen the four screws.
3. Detach the power supply from the chassis.



## ***Removing the Mainboard***

1. Loosen the eight screws from mainboard.
2. Detach the mainboard from chassis.



## ***Troubleshooting***

---

This chapter provides troubleshooting information for the Aspire T680 & AcerPower FG.

- ☐ Power-On Self-Test (POST)
- ☐ POST Check Points
- ☐ POST Error Messages List
- ☐ Error Symptoms List



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## ***Power-On Self-Test (POST)***

Before the computer can be used, all the components must be tested and initialized, and the operating system must be bootstrapped into memory. This process is known as the power-on Self test(POST), generally under the control of the BIOS.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. During POST, system reports test or initialization failure through Beep codes, display error messages on screen(if available), or LED. The system halts when fatal error occurs.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- ☐ Microprocessor with built-in numeric co-processor and cache memory subsystem
- ☐ Direct Memory Access (DMA) controller
- ☐ Interrupt system
- ☐ Three programmable timers
- ☐ ROM subsystem
- ☐ RAM subsystem
- ☐ RTC RAM subsystem and real time clock/calendar with battery backup
- ☐ Onboard serial interface controller
- ☐ Onboard parallel interface controller
- ☐ Embedded hard disk interface and one diskette drive interface
- ☐ Keyboard and auxiliary device controllers
- ☐ I/O ports
  - ☐ PS/2-compatible mouse port
  - ☐ PS/2-compatible keyboard port
- ☐ Serial ports
- ☐ Parallel ports
- ☐ USB port

---

## POST Check Points

When POST executes a task, it uses a series of preset numbers called check point to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the Acer common tasks carried out by POST. A unique check point number represents each task.

<i>Checkpoint</i>	<i>Description</i>
CFh	Test CMOS R/W functionality
C0h	Early chipset initialization: <ul style="list-style-type: none"><li>• Disable shadow RAM</li><li>• Disable L2 Cache (socket 7 or below)</li><li>• Program basic chipset registers</li></ul>
C1h	Detect memory <ul style="list-style-type: none"><li>• Auto-detection of DRAM size, type and ECC.</li><li>• Auto-detection of L2 cache (socket 7 or below)</li></ul>
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM
0h1	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved
03h	Initial Superio_Early_Init switch
04h	Reserved
05h	<ol style="list-style-type: none"><li>1. Blank out screen</li><li>2. Clear CMOS error flag</li></ol>
06h	Reserved
07h	<ol style="list-style-type: none"><li>1. Clear 8042 interface</li><li>2. Initialize 8042 self-test</li></ol>
08h	<ol style="list-style-type: none"><li>1. Test special keyboard controller for Winbond 977 series Super I/O chips</li><li>2. Enable keyboard interface</li></ol>
09h	Reserved
0Ah	<ol style="list-style-type: none"><li>1. Disable PS/2 mouse interface (optional)</li><li>2. Auto detect ports for keyboard &amp; mouse followed by a port &amp; interface swap (optional)</li><li>3. Reset keyboard for Winbond 977 series Super I/O chips</li></ol>
0Bh	Reserved
0Ch	Reserved
0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails. keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.
11h	Reserved

<i>Checkpoint</i>	<i>Description</i>
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial onboard clock generator if Early_Init_Onboard_Generator is defined. See also POST 26h.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686).
19h	Reserved
1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial EARLY_PM_INIT switch
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM Initialization (notebook platform)
22h	Reserved
23h	<ol style="list-style-type: none"> <li>1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute.</li> <li>2. Load CMOS settings into BIOS stack. If Smos checksum fails, use default value instead.</li> </ol>
24h	Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information.
25h	<p>Early PCI Initialization:</p> <ul style="list-style-type: none"> <li>• Enumerate PCI bus number</li> <li>• Assign memory &amp; I/O resource</li> <li>• Search for a valid VGA device &amp; VGA BIOS, and put it into C000:0</li> </ul>
26h	<ol style="list-style-type: none"> <li>1. If Early_Init_Onboard_Generator is not defined Onboard clock generator initialization. Disable respective clock resource to empty PCI &amp; DIMM slots.</li> <li>2. Init onboard PWM</li> <li>3. Init onboard H/W monitor devices</li> </ol>
27h	Initialize INT 09 buffer
28h	Reserved
29h	<ol style="list-style-type: none"> <li>1. Program CPU internal MTRR (P6 &amp; PII) for 0-640K memory address.</li> <li>2. Initialize the APIC for Pentium class CPU</li> <li>3. Program early chipset according to CMOS setup. Example: onboard IDE controller.</li> <li>4. Measure CPU speed.</li> </ol>

<i>Checkpoint</i>	<i>Description</i>
2Ah	Reserved
2Bh	Invoke Video BIOS
2Ch	Reserved
2Dh	1. Initialize double-byte language font (Optional) 2. Put information on screen display, including Award title, CPU type, CPU speed, full screen logo.
2Eh	Reserved
2Fh	Reserved
30h	Reserved
31h	Reserved
32h	Reserved
33h	Reset keyboard if Early_Reset_KB is defined e.g. Winbond 977 series Super I/O chips. See also POST 63h
34h	Reserved
35h	Test DMA Channel 0
36h	Reserved
37h	Test DMA Channel 1
38h	Reserved
39h	Test DMA page registers
3Ah	Reserved
3Bh	Reserved
3Ch	Test 8254
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2
41h	Reserved
42h	Reserved
43h	Test 8259 functionality
44h	Reserved
45h	Reserved
46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K page. 2. Program write allocation for AMD K5 CPU.
4Ah	Reserved
4Bh	Reserved
4Ch	Reserved
4Dh	Reserved

<i>Checkpoint</i>	<i>Description</i>
4Eh	<ol style="list-style-type: none"> <li>1. Program MTRR of M1 CPU</li> <li>2. Initialize L2 cache for P6 class CPU &amp; program CPU with proper cacheable range.</li> <li>3. Initialize the APIC for P6 class CPU.</li> <li>4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.</li> </ol>
4Fh	Reserved
50h	Initialize USB Keyboard & Mouse
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h	Clear password according to H/W jumper (Optional)
54h	Reserved
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	<ol style="list-style-type: none"> <li>1. Display PnP logo</li> <li>2. Early ISA PnP initialization - Assign CSN to every ISA PnP device</li> </ol>
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD (optional)
5Ch	Reserved
5Dh	<ol style="list-style-type: none"> <li>1. Initialize Init_Onboard_Super_IO</li> <li>2. Initialize Init_Onboard_AUDIO</li> </ol>
5Eh	Reserved
5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h	Reserved
62h	Reserved
63h	Reset keyboard if Early_Reset_KB is not defined.
64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup & Auto-configuration table
6Ch	Reserved

<i>Checkpoint</i>	<i>Description</i>
6Dh	<ol style="list-style-type: none"> <li>1. Assign resources to all ISA PnP devices.</li> <li>2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "Auto".</li> </ol>
6Eh	Reserved
6Fh	<ol style="list-style-type: none"> <li>1. Initialize floppy controller</li> <li>2. Set up floppy related fields in 40:hardware</li> </ol>
70h	Reserved
71h	Reserved
72h	Reserved
73h	Reserved
74h	Reserved
75h	Detect & install all IDE device: HDD, LS120, ZIP, CDROM...
76h	(Optional feature) Enter AWDFLASH.EXE if: - AWDFLASH.EXE is found in floppy drive. - ALT+F2 is prrsed.
77h	Detect serial ports & parallel ports
78h	Reserved
79h	Reserved
7Ah	Detect & install co-processor
7Bh	Reserved
7Ch	Init HDD write protect
7Dh	Reserved
7Eh	Reserved
7Fh	Switch back to text mode if full screen logo is supported. - If errors occur, report errors & wait for keys - If no errors occur or F1 key is pressed to continue: Clear EPA or customization logo.
80h	Reserved
81h	Reserved
82h	<ol style="list-style-type: none"> <li>1. Call chipset power management hook.</li> <li>2. Recover the text fond used by EPA logo (not for full screen logo).</li> <li>3. If password is set, ask for password.</li> </ol>
83h	Save all data in stack back to CMOS
84h	Initialize ISA PnP boot devices
85h	<ol style="list-style-type: none"> <li>1. USB final initialization</li> <li>2. Switch screen back to text mode</li> </ol>
86h	Reserved
87h	NET PC: Build SYSID structure
88h	Reserved
89h	<ol style="list-style-type: none"> <li>1. Assign IRQs to PCI devices.</li> <li>2. Set up ACPI table at top of the memory.</li> </ol>
8Ah	Reserved

---

<i>Checkpoint</i>	<i>Description</i>
8Bh	1. Invoke all ISA adapter ROMs 2. Invoke all PCI ROMs (except VGA)
8Ch	Reserved
8Dh	1. Enable/Disable Parity Check according to CMOS setup. 2. APM Initialization
8Eh	Reserved
8Fh	Clear noise if IRQs
90h	Reserved
91h	Reserved
92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program Daylight Saving 3. Program boot up speed 4. Chipset final initialization 5. Power management final initialization 6. Clear screen & display summary table 7. Program K6 write allocation 8. Program P6 class write combining
95h	Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table
FFh	Boot attempt (INT 19h)

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## POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use “POST Error Messages List” to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in “Error Symptom List”.

**NOTE:** When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

**NOTE:** Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a “system no-power” condition.

**NOTE:** To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
I/O Parity Error	1. System board
CPU Clock Mismatch	1. Enter BIOS Setup and load the default settings. 2. Ensure BIOS setting for processor is set correctly.
Real Time Clock Error CMOS Battery Bad CMOS Checksum Error	1. Enter BIOS Setup and load the default settings. 2. RTC Battery. 3. System Board.
Equipment Configuration Error	1. Ensure the system configuration set in BIOS Setup is correct. 2. Enter BIOS Setup and load the default settings. 3. RTC battery. 4. System board.
System Management Memory Bad Memory Error at MMMM:SSSS:OOOOh	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. System board.
RAM Parity Error	1. Enter BIOS Setup to disable parity check. 2. Memory module 3. System board
PS/2 Keyboard Error or Keyboard Not Connected PS/2 Keyboard Interface Error PS/2 Keyboard Locked	1. Re-connect PS/2 keyboard and mouse. 2. Enter BIOS Setup and load the default settings. 3. PS/2 keyboard 4. PS/2 mouse 5. System board
Onboard xxx... Conflict(s)	1. Enter BIOS Setup and load the default settings. 2. Remove all adapter cards that are NOT factory-installed, then reboot the system.
Floppy Disk Controller Error Floppy Drive A Error Floppy Drive B Error	1. Diskette drive cable/connection. 2. Diskette drive. 3. System board
On Board Parallel Port Conflict(s) On Board Serial Port 1 Conflict(s) On Board Serial Port 2 Conflict(s)	1. Enter BIOS Setup and load the default settings. 2. Remove all adapter cards that are NOT factory-installed, then reboot the system.



BIOS Messages	Action/FRU
Floppy Drive(s) Write Protected Hard Disk Drive(s) Write Protected	<ol style="list-style-type: none"> <li>1. Ensure that the diskette drive is not set to [Write Protected] in the Security Options in BIOS Setup.</li> <li>2. Load default settings in Setup.</li> </ol>
IDE Drive 0 Error IDE Drive 1 Error IDE Drive 2 Error IDE Drive 3 Error	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and load the default settings.</li> <li>2. Check IDE drive jumper.</li> <li>3. IDE hard disk drive power.</li> <li>4. IDE hard disk drive cable/connection.</li> <li>5. IDE hard disk drive.</li> </ol>
IRQ Setting Error Expansion ROM Allocation Fail I/O Resource Conflict(s) Memory Resource Conflict(s)	<ol style="list-style-type: none"> <li>1. Load default settings in Setup.</li> <li>2. Enter BIOS Setup and set the <b>Reset Resource Assignments</b> of the <b>PnP/PCI Options</b> to Yes, then reboot the system.</li> <li>3. Remove all adapter cards that are NOT factory-installed, then reboot the system</li> </ol>
PCI Device Error	<ol style="list-style-type: none"> <li>1. Load default settings in Setup.</li> <li>2. Enter BIOS Setup and set the <b>Reset Resource Assignments</b> of the <b>PnP/PCI Options</b> to Yes, then reboot the system.</li> <li>3. Remove all adapter cards that are NOT factory-installed, then reboot the system.</li> </ol>
PS/2 Pointing Device Interface Error PS/2 Pointing Device Error	<ol style="list-style-type: none"> <li>1. Re-connect PS/2 keyboard and mouse.</li> <li>2. Enter BIOS Setup and load the default settings.</li> <li>3. PS/2 mouse</li> <li>4. PS/2 keyboard</li> <li>5. System board</li> </ol>
DMI Table Was Destroyed	<ol style="list-style-type: none"> <li>1. Flash BIOS</li> </ol>
Press "DEL" key to enter Setup or F1 key to continue	<ol style="list-style-type: none"> <li>1. Press DEL to enter Setup and reconfigure the system.</li> </ol>
Press ESC to turn off NMI, or any key to reboot	<ol style="list-style-type: none"> <li>1. Press ESC to reject NMI error or press any other key to reboot the system.</li> </ol>
Insert system diskette and press ENTER key to reboot	<ol style="list-style-type: none"> <li>1. Insert a bootable disk into the floppy disk drive or remove this disk if a hard disk is installed.</li> </ol>

## Error Symptoms List

**NOTE:** To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause

Error Symptom	Action/FRU
<b>Processor / Processor Fan</b>	
<b>NOTE:</b> Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	<ol style="list-style-type: none"> <li>1. Ensure the system is not in power saving mode. See "Power Management" in chapter 2.</li> <li>2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc.</li> <li>3. System board.</li> </ol>
Processor test failed.	<ol style="list-style-type: none"> <li>1. Processor</li> <li>2. System board</li> </ol>
<b>System Board and Memory</b>	
<b>NOTE:</b> Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	<ol style="list-style-type: none"> <li>1. See "Memory"</li> <li>2. System board</li> </ol>
Incorrect memory size shown or repeated during POST.	<ol style="list-style-type: none"> <li>1. Insert the memory modules in the DIMM sockets properly, then reboot the system.</li> <li>2. Memory module.</li> <li>3. System board.</li> </ol>
System works but fails to enter power saving mode when the Power Management Mode is set to Enabled, and power saving timer set in BIOS has elapsed.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and load default settings. In Windows 98, check settings in Power Management Property of Control Panel.</li> <li>2. Reload software from Recovery CD.</li> </ol>
System hangs before system boot.	<ol style="list-style-type: none"> <li>1. See "Index of Symptoms"</li> <li>2. See "Undetermined Problems"</li> </ol>
System hangs after system boot.	<ol style="list-style-type: none"> <li>1. Execute a system test and set it to stop at "Halt on Error" to see the potential cause of the problem.</li> <li>2. See "Undetermined Problems".</li> </ol>
Blinking cursor only; system does not work.	<ol style="list-style-type: none"> <li>1. Diskette/IDE drive connection/cables</li> <li>2. Diskette/IDE disk drives</li> <li>3. See "Undetermined Problems".</li> <li>4. System board</li> </ol>
<b>Diskette Drive</b>	
<b>NOTE:</b> Ensure the diskette drive is configured correctly in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.	
Media and drive are mismatched.	<ol style="list-style-type: none"> <li>1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup.</li> <li>2. Ensure the diskette drive is correctly formatted.</li> <li>3. Diskette drive connection/cable</li> <li>4. Diskette drive</li> <li>5. System board</li> </ol>

Error Symptom	Action/FRU
Diskette drive does not work.	<ol style="list-style-type: none"> <li>1. Ensure the diskette drive is not set to <code>None</code> in the Disk Drives of BIOS Setup.</li> <li>2. Diskette drive power</li> <li>3. Diskette drive connection/cable</li> <li>4. Diskette drive</li> <li>5. System board</li> </ol>
Diskette drive read/write error.	<ol style="list-style-type: none"> <li>1. Diskette.</li> <li>2. Ensure the diskette drive is not set to <code>Write protect</code> in the Security Options of BIOS Setup.</li> <li>3. Diskette drive cable.</li> <li>4. Diskette drive.</li> <li>5. System board.</li> </ol>
Diskette drive LED comes on for more than 2 minutes when reading data.	<ol style="list-style-type: none"> <li>1. Diskette</li> <li>2. Diskette drive connection/cable</li> <li>3. Diskette drive</li> <li>4. System board</li> </ol>
Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes.	<ol style="list-style-type: none"> <li>1. Diskette</li> <li>2. Diskette drive power</li> <li>3. Diskette drive connection/cable</li> <li>4. Diskette drive</li> <li>5. System board</li> </ol>
Diskette drive test failed.	<ol style="list-style-type: none"> <li>1. Diskette</li> <li>2. Diskette drive</li> <li>3. Diskette drive cable</li> <li>4. System board</li> </ol>
<b>Hard Disk Drive</b>	
<b>NOTE:</b> Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems.	
Hard disk drive test failed.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive cable.</li> <li>3. Hard disk drive.</li> <li>4. System board.</li> </ol>
Hard disk drive cannot format completely.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive cable.</li> <li>3. Hard disk drive.</li> <li>4. System board.</li> </ol>
Hard disk drive has write error.	<ol style="list-style-type: none"> <li>1. Enter BIOS Setup and Load default settings.</li> <li>2. Hard disk drive.</li> </ol>
Hard disk drive LED fails to light, but system operates normally.	<ol style="list-style-type: none"> <li>1. With the system power on, measure the voltage of hard disk LED connector.</li> <li>2. Hard drive LED cable.</li> </ol>
<b>CD/DVD-ROM Drive</b>	
<b>NOTE:</b> Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	<ol style="list-style-type: none"> <li>1. CD/DVD-ROM drive</li> </ol>

Error Symptom	Action/FRU
<p>CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off.</p> <p>Software asks to reinstall disc.</p> <p>Software displays a reading CD/DVD error.</p>	<ol style="list-style-type: none"> <li>1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc.</li> <li>2. CD/DVD-ROM is not inserted properly.</li> <li>3. CD/DVD-ROM is damaged.</li> </ol>
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	<ol style="list-style-type: none"> <li>1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk.</li> <li>2. CD/DVD-ROM drive power.</li> <li>3. CD/DVD-ROM drive</li> </ol>
CD/DVD-ROM drive does not read and there are no messages are displayed.	<ol style="list-style-type: none"> <li>1. CD may have dirt or foreign material on it. Check with a known good disc.</li> <li>2. Ensure the CD/DVD-ROM driver is installed properly.</li> <li>3. CD/DVD-ROM drive.</li> </ol>
CD/DVD-ROM drive can play audio CD but no sound output.	<ol style="list-style-type: none"> <li>1. Ensure the headphone jack of the CD/DVD-ROM has an output.</li> <li>2. Turn up the sound volume.</li> <li>3. Speaker power/connection/cable.</li> <li>4. CD/DVD-ROM drive.</li> </ol>
<b>Real-Time Clock</b>	
Real-time clock is inaccurate.	<ol style="list-style-type: none"> <li>1. Ensure the information in the <code>Date and Time</code> of BIOS Setup is set correctly.</li> <li>2. RTC battery.</li> <li>3. System board</li> </ol>
<b>Audio</b>	
Audio software program invokes but no sound comes from speakers.	<ol style="list-style-type: none"> <li>1. Speaker power/connection/cable.</li> </ol>
<b>Modem</b>	
Modem ring cannot wake up system from suspend mode.	<ol style="list-style-type: none"> <li>1. Ensure the <code>Modem Ring Indicator</code> in BIOS Setup or <code>Power Management</code> is set to <code>Enabled</code>.</li> <li>2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card.</li> <li>3. If ISA modem card is used, ensure the modem ring-in cable from the modem card to system board is connected properly.</li> <li>4. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.</li> </ol>
Data/fax modem software program invokes but cannot receive/send data/fax	<ol style="list-style-type: none"> <li>1. Ensure the modem card is installed properly.</li> </ol>
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	<ol style="list-style-type: none"> <li>1. Ensure the modem voice-in cable from modem adapter card to system board</li> </ol>
<b>Video and Monitor</b>	
<p>Video memory test failed.</p> <p>Video adapter failed.</p>	<ol style="list-style-type: none"> <li>1. Remove all non-factory-installed cards.</li> <li>2. Load default settings (if screen is readable).</li> <li>3. System board</li> </ol>

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Error Symptom	Action/FRU
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor(dark) Blank monitor(bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. System board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. System board
Display problem not listed above (including blank or illegible monitor).	1. "Monitor". 2. Load default settings (if screen is readable). 3. System board

Error Symptom	Action/FRU
<b>Parallel/Serial Ports</b>	
Execute "Load BIOS Default Settings" in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	<ol style="list-style-type: none"> <li>1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup.</li> <li>2. Loop-back.</li> <li>3. System board.</li> </ol>
Printing failed.	<ol style="list-style-type: none"> <li>1. Ensure the printer driver is properly installed. Refer to the printer service manual.</li> <li>2. Printer.</li> <li>3. Printer cable.</li> <li>4. System board.</li> </ol>
Printer problems.	<ol style="list-style-type: none"> <li>1. Refer to the service manual for the printer.</li> </ol>
<b>Keyboard</b>	
Some or all keys on keyboard do not work.	<ol style="list-style-type: none"> <li>1. Keyboard</li> </ol>
<b>Power Supply</b>	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	<ol style="list-style-type: none"> <li>1. Ensure the Power Switch &lt; 4 sec. in BIOS Setup of Power Management is not set to Suspend.</li> <li>2. Power switch cable assembly</li> </ol>
Pressing power switch does not turn on the system.	<ol style="list-style-type: none"> <li>1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF.</li> <li>2. Power switch cable assembly.</li> </ol>
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	<ol style="list-style-type: none"> <li>1. Load default settings.</li> <li>2. Reload software from Recovery CD.</li> </ol>
No system power, or power supply fan is not running.	<ol style="list-style-type: none"> <li>1. Power Supply</li> <li>2. System Board</li> </ol>
<b>Other Problems</b>	
Any other problems.	<ol style="list-style-type: none"> <li>1. Undetermined Problems</li> </ol>

## ***FRU (Field Replaceable Unit) List***

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This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of **Aspire T680 / AcerPower FG**. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

**NOTE:** Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel (<http://aicsl.acer.com.tw/spl/>, if you do not own a specific account, you can still access the system with guest; guest). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

# Exploded Diagram

